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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/788,571 | SHIH ET AL. | |
| | Examiner | Art Unit | |
| | Edna Wong | 1753 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment After Final dated November 9, 2006.
2. ☒ The allowed claim(s) is/are 1-4,6-11,13-15,17,18 and 20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

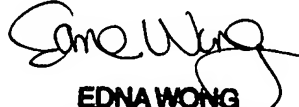
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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EDNA WONG
PRIMARY EXAMINER

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claims **1-4 and 6-8** are allowable over the prior art of record because the prior art does not teach or suggest an electrochemical plating electrolyte solution, comprising:

an electrolyte bath solution; and

a polymer additive provided in said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of an aromatic monomer and an aromatic amine monomer, respectively, in said each of said polymers.

Claims **9-11 and 13-15** are allowable over the prior art of record because the prior art does not teach or suggest an electrochemical plating electrolyte solution, comprising:

an electrolyte bath solution; and

a polymer additive provided in said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of an aromatic monomer and an aromatic amine monomer, respectively, in said each of said

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polymers; and

a cationic charge density of from about 1 meq/g to about 6 meq/g.

Claims **17-18 and 20** are allowable over the prior art of record because the prior art does not teach or suggest a method of electroplating a metal on an electroplating surface, comprising the steps of providing, mixing, immersing and electroplating as presently claimed, esp., the step of mixing a polymer additive with said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of an aromatic monomer and an aromatic amine monomer, respectively, in said each of said polymers.

The prior art does not contain any language that teaches or suggests the above. *JP 60-017092* does not teach a polymer additive provided in said electrolyte bath solution, said polymer additive comprising polymers having a chemical formula of $\text{CH}_3(\text{CH}_2\text{CHX})_m(\text{CH}_2\text{CHYCH}_2)_n\text{CH}_3$, where X is an aromatic functional group; Y is an aromatic amine functional group; and m and n are integers indicating numbers of an aromatic monomer and an aromatic amine monomer, respectively, in said each of said polymers. Therefore, a person skilled in the art would not have been motivated to adopt the above conditions, and a prima facie case of obviousness cannot be established.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

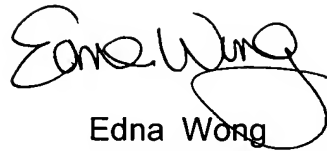
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Edna Wong". The signature is stylized with a large, looping "W" and a long horizontal stroke extending to the left.

Edna Wong
Primary Examiner
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EW
November 20, 2006